

FIG. 1
(PRIOR ART)

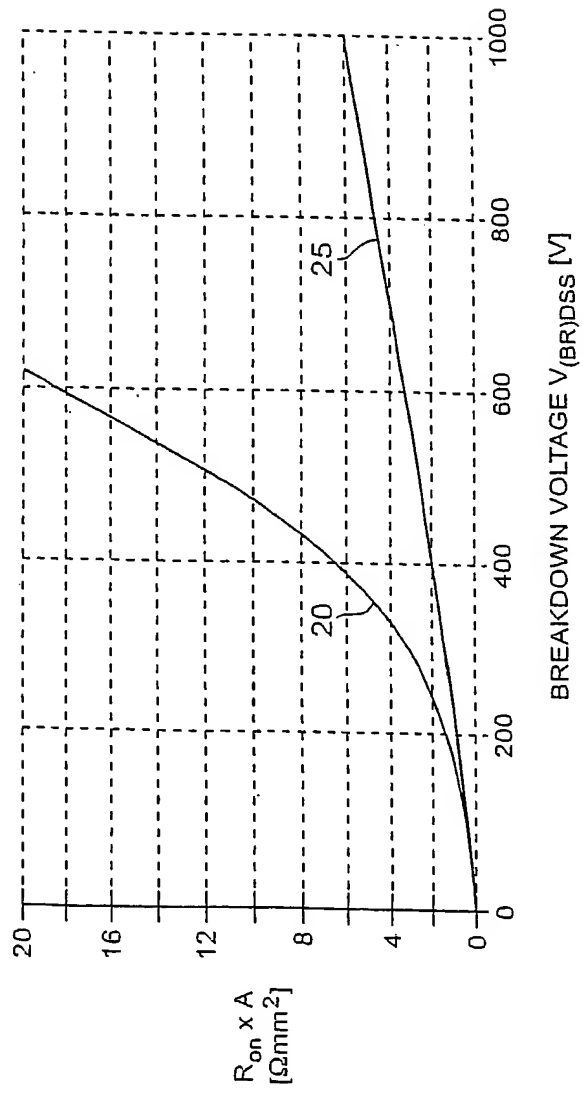
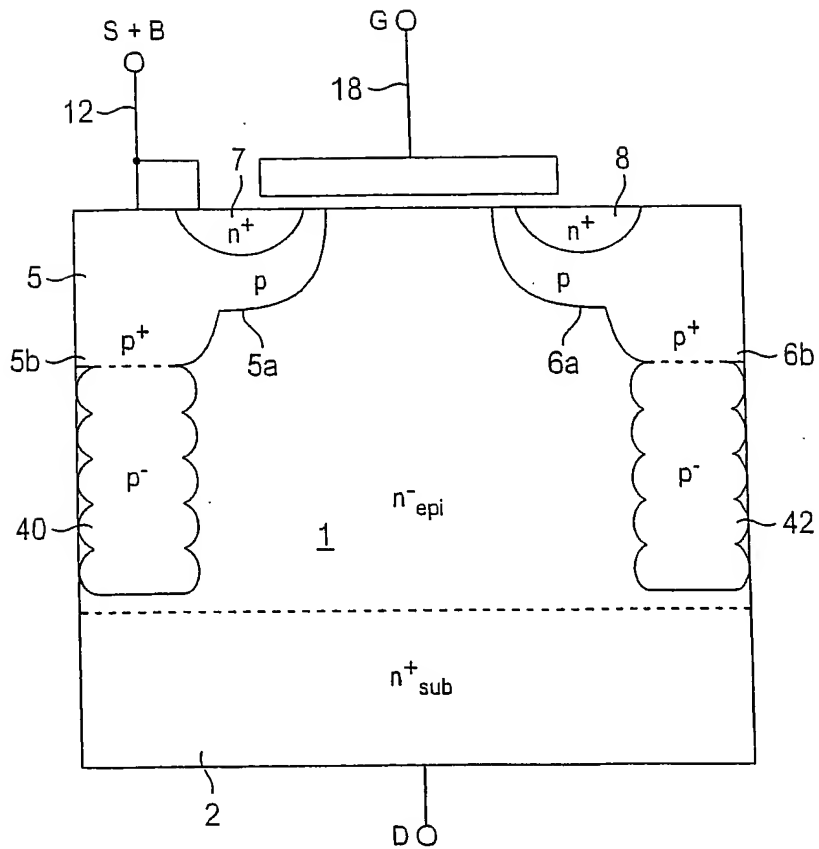


FIG. 2



THE DOPANT DISTRIBUTION OF A HIGH VOLTAGE VERTICAL DMOS TRANSISTOR WITH A RELATIVELY LOW ON-RESISTANCE

FIG. 3

1. GROW/DEPOSIT A TRENCH ETCH-STEP LAYER
2. MASK AND ETCH THE TRENCH ETCH-STEP LAYER
3. ETCH THE TRENCH USING A GAS THAT CONTAINS THE DESIRED DOPANT SPECIES

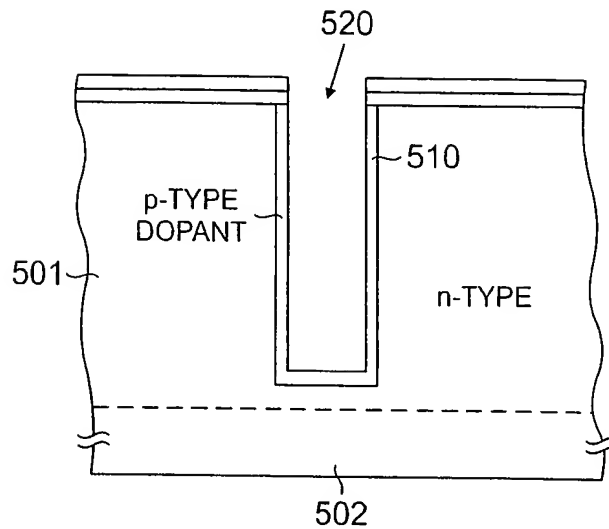


FIG. 4A

4. FILL THE TRENCH WITH A DIELECTRIC OR A HIGH RESISTIVITY LAYER
5. PLANARIZE
6. DIFFUSE THE DOPANT TO FORM THE DESIRED JUNCTION

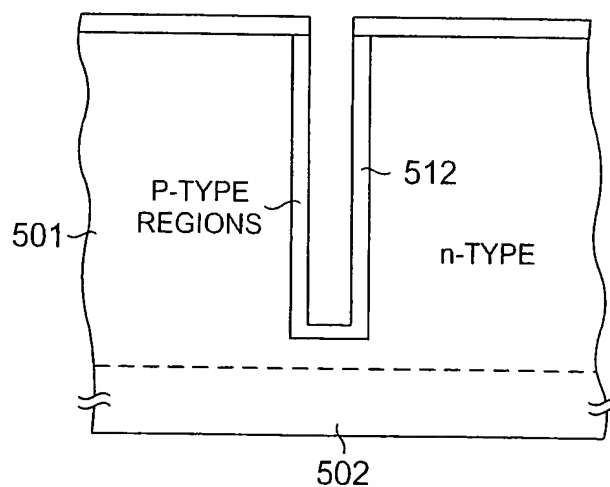
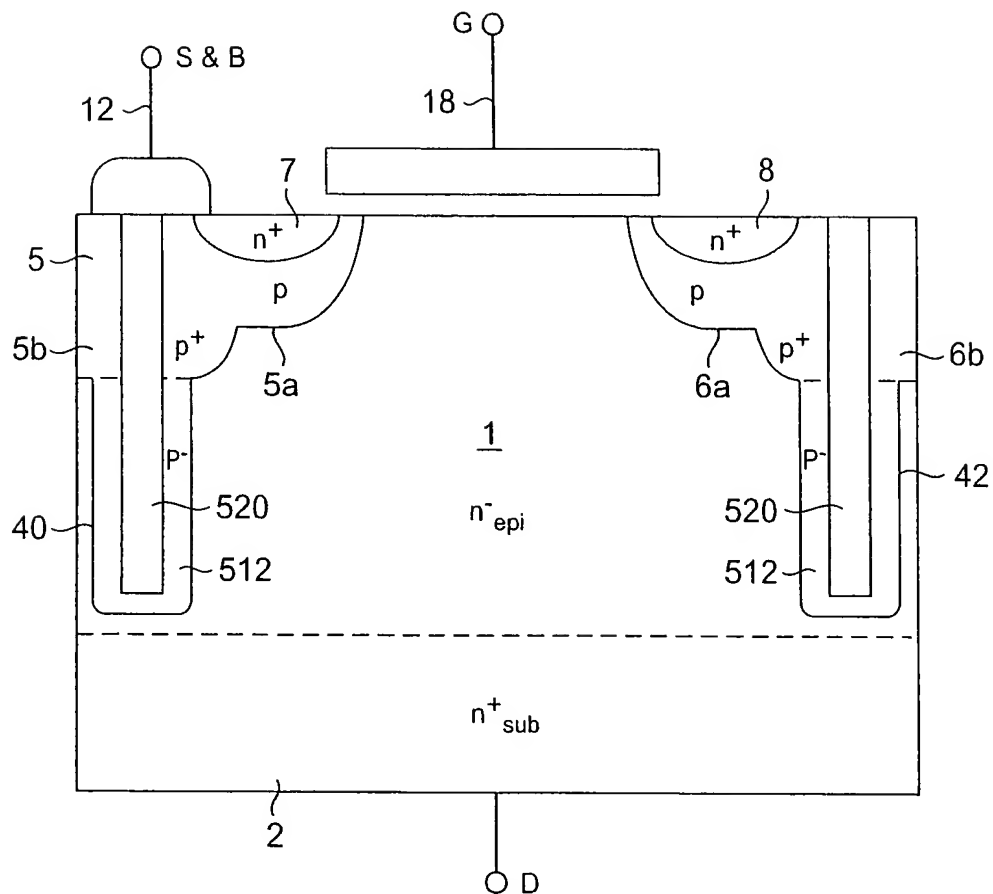


FIG. 4B



THE DOPANT DISTRIBUTION OF A HIGH VOLTAGE VERTICAL DMOS TRANSISTOR WITH A RELATIVELY LOW ON-RESISTANCE

FIG. 5